

URBP 204A: QUANTITATIVE METHODS I

FALL 2010

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Office hours:	Monday 11 am to 12 noon and 1:30 pm to 3:30 pm Thursday 1:30 pm to 3 pm
Class days/time:	Monday 4 pm to 6:45 pm
Classroom:	DMH 236

Course Catalog Description:

Urban research design, measurement, selected statistical research tools and introduction to computer processing. Extensive treatment of survey research.

Course Description and Objectives:

What does “quantitative research” mean? How do I choose an appropriate research method? Why is survey a research tool? How do I conduct surveys? What kind of information may be obtained using U.S. Census data? What is “standard deviation”? What does the term “statistically significance” mean? These are some of the questions that interest many of us in the field of urban and regional planning. This course aims to answer these and other similar questions.

The course begins with an overview of social research, and of several research methods frequently used in social science research. Next, it focuses on learning statistical tools needed to answer specific research questions. Thereafter it provides an overview of survey research. It then reviews the elements of research design. In the end it requires the students to conduct statistical analysis of survey data, and to present the research findings to the class.

Student Learning Objectives for the Course

Upon successful completion of the course, the students will be able to:

- identify the overall strengths and weaknesses of quantitative, qualitative, experimental, and survey research methods; and assess which research method/s, given the resource constraints, are most appropriate for answering the research question;
- develop research question worthy of informing public policy, and identify the statistical tool (the tools learned in this class are: Tests between Means of Different Groups, Tests Between Means of Related Groups, ANOVA, Factorial ANOVA, Correlation, and One- and Two-Factor Chi Square) appropriate for answering the research question;
- develop survey research questions that conform to conventional best practices in survey design;

- d) critically evaluate the strengths and weaknesses of various non-probability and probability-based sampling techniques;
- e) present quantitative data and results in text and graphic formats;
- f) identify the policy implications of statistical test results; and
- g) read a research article that uses multiple regression method and:
 - i. identify the aim of the paper;
 - ii. identify the data sources;
 - iii. identify the dependent and the independent variables;
 - iv. using the regression result table, identify the level of statistical significance, and describe the direction and magnitude of the impact of each independent variable on the dependent variable.

Required Course Readings:

There are two required text books for this course. They are:

a) Babbie, Earl. 2004. Practice of Social Research, 10th ed. Belmont, CA: Wadsworth. (ISBN: 0-534-62029-9)

You may use the 9th edition (ISBN 0-534-57491-2) of the.

b) Salkind, Neil. 2004. Statistics for People Who (Think They) Hate Statistics, 2nd Edition. Thousand Oaks, CA: Sage. (ISBN 0-7619-2776-X)

Both these books may be bought from any vendor. Some on-line vendors include:

<http://www.powells.com>

<http://www.amazon.com>

<http://www.bordersstores.com>

Course Assignments and Grading Policy:

This class will be a combination of lectures, discussions, and lab work. MS Excel and SPSS will be the primary statistical software used.

Grades will be based on three take home exercises (5% each for the first and the third take home exercise, and 20% for the second take home exercise), mid-term exam (20%), term project (40%), and the presentation of the term project (10%). Late work will not be accepted, except with the prior permission of the professor.

Course grade and corresponding numerical grade:

A+ (96 and above); A (93 to 95); A- (90 to 92); B+ (87 to 89); B (84 to 86); B- (81 to 83); C+ (78 to 80); C (75 to 77); C- (72 to 74); D+ (69 to 71); D (66 to 68); D- (63 to 65); and F (below 63)

Academic integrity statement, plagiarism, and citing sources properly

SJSU's Policy on Academic Integrity states: "Your own commitment to learning, as evidenced by your enrollment at San Jose State University, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Conduct and Ethical Development" (Academic Senate Policy S07-2). [The policy on academic integrity can be found at http://www.sjsu.edu/senate/S07-2.htm](http://www.sjsu.edu/senate/S07-2.htm).

Plagiarism is the use of someone else's language, images, data, or ideas without proper attribution. It is a very serious offense both in the university and in your professional work. In essence, plagiarism

is both theft and lying: you have stolen someone else's ideas, and then lied by implying that they are your own.

Plagiarism will lead to grade penalties and a record filed with the Office of Student Conduct and Ethical Development. In severe cases, students may also fail the course or even be expelled from the university.

If you are unsure what constitutes plagiarism, it is your responsibility to make sure you clarify the issues before you hand in draft or final work.

Learning when to cite a source and when not to is an art, not a science. However, here are some examples of plagiarism that you should be careful to avoid:

- If you use a sentence (or even part of a sentence) that someone else wrote and don't reference the source, you have committed plagiarism.
- If you paraphrase somebody else's theory or idea and don't reference the source, you have committed plagiarism.
- If you use a picture or table from a webpage or book and don't reference the source, you have committed plagiarism.
- If your work incorporates data someone else has collected and you don't reference the source, you have committed plagiarism.

The University of Indiana has developed a very helpful website with concrete examples about proper paraphrasing and quotation. See in particular the following pages:

- [Overview of plagiarism at http://www.indiana.edu/~istd/overview.html](http://www.indiana.edu/~istd/overview.html)
- [Examples of plagiarism at http://www.indiana.edu/~istd/examples.html](http://www.indiana.edu/~istd/examples.html)
- [Plagiarism quiz at http://www.indiana.edu/~istd/test.html](http://www.indiana.edu/~istd/test.html)

If you still have questions, feel free to talk to me personally. There is nothing wrong with asking for help, whereas even unintentional plagiarism is a serious offense.

Citation style

It is important to properly cite any references you use in your assignments. The Department of Urban and Regional Planning uses Kate Turabian's "A Manual for Writers of Research Papers, Theses, and Dissertations, 7th edition" (University of Chicago Press, 2007, ISBN-10: 0-226-82336-9). Copies are available in the SJSU King Library. Additionally, the book is relatively inexpensive, and you may wish to purchase a copy. Please note that Turabian's book describes two systems for referencing materials: (1) "notes" (footnotes or endnotes), plus a corresponding bibliography, and (2) in-text parenthetical references, plus a corresponding reference list.

Please note that Turabian's book describes two main systems for referencing materials: (1) footnotes or endnotes, plus a corresponding bibliography, or (2) in-text parenthetical references, plus a corresponding reference list. You can use any system. However make sure that once you have decided to use one system, it is diligently adopted throughout your written work.

Accommodation for Disabilities

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the DRC (Disability Resource Center) to establish a record of their disability.

Tentative Course Schedule

Please note: In the Course Schedule below, the chapter numbers for the Earl Babbie book are as per the 10th Edition. The Chapters titles for the 10th Edition are provided at the end of the syllabus. If you buy the 9th Edition, look for the corresponding chapter titles. Chapter numbers for the Salkind book are as per the 2nd Edition.

1. August 30

Course Overview; Social Research

Required reading:

Earl, Babbie. Ch. 1, 2, 3 and 5

2. September 6

Labor Day – No Class

3. September 13

Statistical Analysis - I

Descriptive Statistics

Required reading:

Salkind, Neil. Ch. 2 and 3

1st Take Home Exercise Set

4. September 20

Statistical Analysis - II; Overview of Census Data

Normal Distribution; Hypothesis Testing; T-statistics

Required reading:

Salkind, Neil. Ch. 6, 7 and 8

5. September 27

Statistical Analysis - III

Tests between Means of Different Groups; Tests Between Means of Related Groups; ANOVA

Required reading:

Salkind, Neil. Ch. 9, 10 and 11

1st Take Home Exercise Set Due

6. October 4

Statistical Analysis - IV

Factorial ANOVA; Chi-squared tests; Correlation

Required reading:

Salkind, Neil. Ch. 12, 13 and 15

2nd Take Home Exercise Set

Term Project Introduced (Review of Survey Questionnaire; Review of Survey Data File)

1st Take Home Exercise Set Graded

7. October 11

Statistical Analysis – V; Survey Research – I

Required reading:

Earl, Babbie. Ch. 7 to 10

Neighborhood Profile Memo Due

Revised 1st Take Home Exercise Set Due

8. October 18

No Class – Away for Conference

9. October 25

Survey Research – II

Research Questions Due

Revised 1st Take Home Exercise Set Graded

10. November 1

Research Design – I; Lab Time for Term Project

Required reading:

Earl, Babbie. Ch. 4 and 6

2nd Take Home Exercise Set Due

Research Questions Graded

Mid-Term Exam (take home)

3rd Take Home Exercise Set

11. November 8

Research Design – II; Computer Graphics

2nd Take Home Exercise Graded

Revised Research Questions Due

12. November 15

Lab Time for Term Project

Revised Research Questions Graded

Revised 2nd Take Home Exercise Set Due

3rd Take Home Exercise Set Due

13. November 22

IRB; How to read research using multiple regression method

Term Project Analysis Report Due

Revised 2nd Take Home Exercise Graded

3rd Take Home Exercise Graded

14. November 29

Lab Time for Term Project

Term Project Analysis Report Graded

Mid-Term Exam Due

Revised 3rd Take Home Exercise Set Due

15. December 6

In-Class Presentation of Term Project

Revised Term Project Analysis Report Due

Revised 3rd Take Home Exercise Set Graded

16. December 13

In-Class Presentation of Term Project

Revised Term Project Analysis Report Graded

Mid-Term Exam Graded



APPENDIX:

Chapter Titles: Babbie 10th edition

Ch. 1
Human Inquiry and Science

Ch 2
Paradigms, Theory and Social Research

Ch 3
The Ethics and Politics of Social Research

Ch 4
Research Design

Ch 5
Conceptualization, Operationalization, and Measurement

Ch 6
Indexes, Scales, and Typologies

Ch 7
The Logic of Sampling

Ch 8
Experiments

Ch 9
Survey Research

Ch 10
Qualitative Field Research

Ch 11
Unobtrusive Research

Ch 12
Evaluation Research

Ch 13
Qualitative Data Analysis

Ch 14
Quantitative Data Analysis

Ch 15
The Elaboration Model

Ch 16
Social Statistics

Ch 17
Reading and Writing Social Research